

PATENT  
App. Ser. No.: 10/829,613  
Atty. Dkt. No. ROC920040124 US1  
PS Ref. No.: IBMK40124

# IN THE CLAIMS:

Please and amend the claims as follows:

1. – 5. (Cancelled).

6. (Currently Amended) A computer-implemented method for managing execution of a query against data in one or more database tables, comprising:  
receiving a query to be executed against the one or more database tables;  
determining whether the query requires relating a first column and a second column, each having associated units metadata, the first and second columns being included in the one or more database tables;  
determining, from the associated units metadata, a first measurement unit for the first column and a second measurement unit for the second column, wherein the first measurement unit specifies a first unit of measure for data values in the first column and the second measurement unit specifies a second unit of measure for data values in the second column; and  
converting the data values contained in the first column having the first measurement unit into equivalent data values having when measured according to the second measurement unit; and  
executing the query against the converted data values in the first column and the data values in the second column.

7. (Currently Amended) The method of claim 6, further comprising:  
before converting, determining whether the data values quantified using the first measurement unit can be converted into data values quantified using the second measurement unit.

8. (Original) The method of claim 6, further comprising:  
determining a conversion algorithm for converting the data; and  
using the conversion algorithm for converting the data.

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9. (Original) The method of claim 6, wherein the query is a SQL query having a JOIN statement specifying the first and second columns.
10. (Original) The method of claim 6, wherein the query is a SQL query having a WHERE clause specifying the first and second columns.
11. (Currently Amended) The method of claim 6, wherein the query requests data in a third measurement unit, the method further comprising:  
receiving a query result for the query, the query result including data values measured using having one of the first and second measurement units; and  
converting the data returned with the query result into data values having measured using the third measurement unit.
12. (Cancelled)
13. (Currently Amended) A computer-implemented method for managing execution of a query against data in a database table, comprising:  
receiving a query to be executed against the one or more database tables;  
determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;  
determining whether a column in the database table corresponding to the result field has units metadata indicating a second measurement unit, wherein the second measurement unit specifies a second unit of measure for data values stored in the column; and  
if so, converting data values obtained as a query result having with data values measured using the second measurement unit into equivalent data values measured using having the first measurement unit of the result field; and
14. (Currently Amended) The method of claim 13, further comprising:

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determining a conversion algorithm for converting the data values obtained as the query result; and

using the conversion algorithm ~~for converting~~ to convert the data values obtained as the query result into the data values measured using ~~having~~ the first measurement unit.

15. (Currently Amended) A computer-implemented method for executing managing execution of a query against data in a database table, comprising:

determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;

determining whether a column in the database table corresponding to the result field has an associated index specifying data values are stored in the column according to using a second measurement unit, wherein the second measurement unit specifies a second unit of measure;

if so, modifying the result field having the first measurement unit into a result field having the second measurement unit of the associated index; and  
executing the query using the modified associated index.

16. (Currently Amended) The method of claim 15, further comprising:

receiving a query result for the query, the query result including data values measured using ~~having~~ the second measurement unit; and

converting the data values returned with the query result into equivalent data values when measured using ~~having~~ the first measurement unit.

17. (Currently Amended) The method of claim 16, further comprising:

determining a conversion algorithm for converting the data; and  
using the conversion algorithm ~~for converting~~ to convert the data returned with the query result into the data values measured using ~~having~~ the first measurement unit.

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18. (Original) The method of claim 15, further comprising:  
if it is determined that the column has two or more indexes:  
selecting, as the associated index, an index from the two or more indexes  
requiring less memory space.
19. (Original) The method of claim 15, further comprising:  
if it is determined that the column has two or more indexes:  
selecting, as the associated index, an index from the two or more indexes  
which is most often used.

20. – 24. (Cancelled)

25. (Currently Amended) A computer readable storage medium containing a program which, when executed, performs a process for managing execution of a query against data in one or more database tables, the process comprising:  
receiving a query to be executed against the one or more database tables;  
determining whether the query requires relating a first column and a second column, each having associated units metadata, the first and second columns being included in the one or more database tables;  
determining, from the associated units metadata, a first measurement unit for the first column and a second measurement unit for the second column, wherein the first measurement unit specifies a first unit of measure for data values in the first column and the second measurement unit specifies a second unit of measure for data values in the second column; and  
converting the data values contained in the first column having the first measurement unit into equivalent data values having when measured according to the second measurement unit; and  
executing the query against the converted data values in the first column and the data values in the second column.

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26. (Currently Amended) The computer readable storage medium of claim 25, wherein the process further comprises:  
before converting, determining whether the data values quantified using the first measurement unit can be converted into data values quantified using the second measurement unit.
27. (Currently Amended) The computer readable storage medium of claim 25, wherein the process further comprises:  
determining a conversion algorithm for converting the data; and  
using the conversion algorithm for converting the data.
28. (Currently Amended) The computer readable storage medium of claim 25, wherein the query is a SQL query having a JOIN statement specifying the first and second columns.
29. (Currently Amended) The computer readable storage medium of claim 25, wherein the query is a SQL query having a WHERE clause specifying the first and second columns.
30. (Currently Amended) The computer readable storage medium of claim 25, wherein the query requests data in a third measurement unit, the method further comprising:  
receiving a query result for the query, the query result including data values measured using having one of the first and second measurement units; and  
converting the data returned with the query result into data values having measured using the third measurement unit.
31. (Cancelled)

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32. (Currently Amended) A computer readable storage medium containing a program which, when executed, performs a process for managing execution of a query against data in a database table, the process comprising:

receiving a query to be executed against the one or more database tables;

determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;

determining whether a column in the database table corresponding to the result field has units metadata indicating a second measurement unit, wherein the second measurement unit specifies a second unit of measure for data values stored in the column; and

if so, converting data values obtained as a query result having with data values measured using the second measurement unit into equivalent data values measured using having the first measurement unit of the result field.

33. (Currently Amended) The computer readable storage medium of claim 32, further comprising:

determining a conversion algorithm for converting the data values obtained as the query result; and

using the conversion algorithm for converting to convert the data values obtained as the query result into the data values measured using having the first measurement unit.

34. (Currently Amended) A computer readable storage medium containing a program which, when executed, performs a process for executing managing execution of a query against data in a database table, the process comprising:

determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;

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determining whether a column in the database table corresponding to the result field has an ~~associated~~ index specifying data values are stored in the column according to using a second measurement unit, wherein the second measurement unit specifies a second unit of measure;

if so, modifying the result field having the first measurement unit into a result field having the second measurement unit of the ~~associated~~ index; and  
executing the query using the modified ~~associated~~ index.

35. (Currently Amended) The computer readable storage medium of claim 34, wherein the process further comprises:

receiving a query result for the query, the query result including data values measured using having the second measurement unit; and

converting the data values returned with the query result into equivalent data values when measured using having the first measurement unit.

36. (Currently Amended) The computer readable storage medium of claim 35, wherein the process further comprises:

determining a conversion algorithm for converting the data; and

using the conversion algorithm ~~for converting~~ to convert the data returned with the query result into the data values measured using having the first measurement unit.

37. (Currently Amended) The computer readable storage medium of claim 34, wherein the process further comprises:

if it is determined that the column has two or more indexes:

selecting, as the associated index, an index from the two or more indexes requiring less memory space.

38. (Currently Amended) The computer readable storage medium of claim 34, wherein the process further comprises:

if it is determined that the column has two or more indexes:

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selecting, as the associated index, an index from the two or more indexes which is most often used.

39. (Cancelled)

40. (Currently Amended) A data processing system, comprising:  
at least one database having one or more database tables; and  
a units metadata manager for managing execution of a query against data in the one or more database tables, the units metadata manager being configured for:  
receiving a query to be executed against the one or more database tables;  
determining whether the query requires relating a first column and a second column, each having associated units metadata, the first and second columns being included in the one or more database tables;  
determining, from the associated units metadata, a first measurement unit for the first column and a second measurement unit for the second column, wherein the first measurement unit specifies a first unit of measure for data values in the first column and the second measurement unit specifies a second unit of measure for data values in the second column; and  
converting data contained in the first column having the first measurement unit into equivalent data having the second measurement unit; and  
executing the query against the converted data values in the first column and the data values in the second column.

41. (Currently Amended) A data processing system, comprising:  
at least one database having a database table; and  
a units metadata manager for managing execution of a query against data in the database table, the units metadata manager being configured for:  
determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;



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determining whether a column in the database table corresponding to the result field has units metadata indicating a second measurement unit, wherein the second measurement unit specifies a second unit of measure for data values stored in the column; and

if so, converting data values obtained as a query result having with data values measured using the second measurement unit into equivalent data values measured using having the first measurement unit of the result field.

42. (Currently Amended) A data processing system, comprising:  
at least one database having a database table; and  
a units metadata manager for executing managing execution of a query against data in the database table, the units metadata manager being configured for:  
receiving a query to be executed against the one or more database tables;  
determining whether the query includes a result field associated with a first measurement unit, wherein the first measurement unit specifies a first unit of measure for the result field included the query;  
determining whether a column in the database table corresponding to the result field has an associated index specifying data values are stored in the column according to using a second measurement unit, wherein the second measurement unit specifies a second unit of measure;  
if so, modifying the result field having the first measurement unit into a result field having the second measurement unit of the associated index; and  
executing the query using the modified associated index.